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Exploring the Modified Procurement Framework for Expediting Florida Connected Vehicle (CV) Deployments

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Current Situation

Many states are actively exploring connected vehicle (CV) technologies to improve travel reliability, efficiency, and safety on increasingly crowded roadways. CVs communicate with each other and with roadside infrastructure that relay information to and from traffic management centers. A CV's awareness of nearby vehicles can greatly reduce the potential for crashes. Pedestrian crossing and traffic signal messages can be delivered to CVs and cell phones to improve safety and efficiency. Other CV benefits include route optimization, real-time traffic data collection, increased fuel economy, and improved travel times. State and federal initiatives are advancing CV technology on many fronts, beginning with planning, design, and testing. The procurement process, which involves the selection of system components and vendors before contracts can be negotiated, is an important, yet often challenging, element of each CV deployment, and each deployment is project specific. Project managers must navigate the procurement process for each CV project before proven technologies can be implemented.

Research Objectives

Researchers from the University of North Florida and Florida International University examined CV deployments in Florida and other states to compile lessons learned and develop best practices associated with CV procurement to streamline the process for expediting future CV projects.

Project Activities

Current regional and national CV deployments were reviewed and documented. Several international CV projects were also identified.

Florida Department of Transportation (FDOT) managers of CV deployments in Districts Two and Five, Central Office, and the Florida Turnpike Enterprise were surveyed to discuss CV projects in Florida. In the survey and in follow-up interviews, managers were asked to share their experiences with the procurement process, lessons learned, and best practices identified from CV deployments in their respective jurisdictions.

Transportation agencies in other states were also surveyed to explore lessons learned and best practices used in CV deployments. The information gathered from this survey effort was combined with responses obtained from the Florida survey effort to develop suggested procurement framework guidelines. The framework identifies procurement activities to assist managers with CV project development.

The research revealed key factors to consider when deploying CV technologies, such as project scheduling issues, the need for additional post-planning work, system component testing and procurement options, Federal Communications Commission (FCC) approval for CV devices, and security management of the system. Since CV deployments are still fairly new in Florida, it is expected that additional guidelines geared at improving the procurement framework will be developed as FDOT expands its Connected and Automated Vehicle (CAV) program.

Project Benefits

CV technologies can support traffic management strategies that improve safety and reliability for Florida drivers. Knowledgeable procurement processes will bring these technologies to the driving public sooner and with greater efficiency.

For more information, please see www.fdot.gov/research/.



This experimental vehicle is part of a FDOT initiative to test CAV technologies. Components, such as sensors and communication devices, normally built in a vehicle, are exposed for testing purposes.